thing to Montanans, to many Montanans, when it went in. It continues to create some challenges and barriers. It may provide some good to some; but it creates probably more problems, I think, than good.

I think it's an FCC issue. I see some bobbing heads here. Is that your question, Gary?

COMMISSIONER FELAND: Well, yeah. I'd like to know what's it going to take to get rid of it.

MR. HERBERT: That's a question I don't know the answer to. Do you, Lynn? I mean, Commissioner Rowe might have a better shot at that.

COMMISSIONER ROWE: Correct me, if I'm wrong, but there are two ways to get at that. First, at a macro level. Section 271 of the Telecommunications Act sets out a process to get all the Bell operating companies out of the LATA restrictions, and that's one of the goals of the regional project.

My understanding is that in specific situations the FCC does have authority to waive LATA boundaries, and it's been suggested to me informally that in some cases an intrastate LATA boundary might be analyzed differently than an interstate LATA boundary. Correct me if I'm wrong. That wasn't at your office, so --

MS. HOFFNAR: Yeah, you're beyond my expertise.

COMMISSIONER ROWE: That was with somebody in the

office of plans and policies. But those are the basic ways to get at it.

AUDIENCE: I have a question for the Public -- I have a question, I think it's for the Public Service Commission, and that is in regard to the FCC ruling on 671. What role does the FCC take as opposed to what role does the Public Service Commission take in making -- ensuring that U.S. West is -- in our area U.S. West is complying with those rulings so that competition can thrive in this market?

COMMISSIONER ROWE: The question again follows up on Commissioner Feland's question in terms of what's the role of the State Public Service Commission in implementing Section 271. Maybe we can go back and put up slides I didn't put up.

Section 271, again, is the means for the Bell operating company, U.S. West, to get out of the antitrust restrictions that were imposed actually by a federal court in the 1980s. In the 1996 act, it created the vehicle to do that. What the act says is the FCC must decide on the Bell operating company application, it has to do it within 90 days, and it has to consult with the United States Department of Justice and give substantial deference to the Department of Justice recommendation. It also has to consult with the state Public Service Commission.

The tight timelines and limited resources at the

federal level have made two very important roles for the state commission. The first is developing a record, and that's a massive project.

The second, and I think the more productive, is solving problems; and there are a couple of ways that states have advanced to try to solve problems. One is the use of collaboratives between parties, and the other is third-party testing of the technical systems that are required for local competition.

What we've done in the west, and actually the Montana commission proposed this, was that the U.S. West states convene an open multiparty, multistate collaborative process, and we're well into that process. It's all web based. Actually, those of you on the competitive side in Montana, it would be very helpful to have you participate in that process.

What's happening right now is -- and our staff here, by the way, are very, very active in leading that process. We worked through a series of performance measures. We've put out the contracts for bid for the third-party tester and a company to generate -- a pseudo C-LEC company to generate the test and an auditor. Hopefully, we'll be signing contracts in the next few weeks for that.

We hope this will be a multistate process -- Jay is telling me to stop -- to deal with the post-entry issues

once the Bell company gets in, and there may be -- we hope there will be some state-to-state coordination on other specific parts of the checklist.

I'm really, really pleased and proud of the way both the competitors and U.S. West have worked together developing the test. And we're not anywhere near actually testing anything, that comes in the future, so I'm not trying to endorse or to say that the systems that are in place now are working. But the results in these collaboratives has been -- where there is a disagreement over a performance measure, generally the outcome is that the collaborative has agreed on the high end of the reasonable range, but that's been necessary to move the process forward. And I'll talk to you even longer later on this point.

Can we do -- Jay is going to yell at me. Can we go around the other sites one more time for questions? Any other questions here?

AUDIENCE: I was wondering if the PSC or one of its -- or an ad hoc committee has done any projections looking at what E-Commerce -- Montana-generated E-Commerce is going to mean to the state over the next, say, five years, the next decade, and if any plans are in place to engender that to happen.

COMMISSIONER ROWE: I thought we were supposed to be

asking the questions.

COMMISSIONER THOMPSON: I don't know. They got you, Bob.

COMMISSIONER ROWE: The Public Service Commission hasn't done that. I have access to other reports that have. The Department of Commerce -- I don't know if Tony can speak for the Department of Commerce or not, but they have a number of technology-oriented task forces in place.

There is a recognition that E-Commerce is particularly important in a rural state in a number of ways: business to customer, and we're all aware of examples of a Vann.com; business to business; and then business operations within a business, whether it's inventory control or whatever. Probably all of those are as or more important in a rural area than in an urban area.

There are economists who look at all this and say that we really haven't -- apart from the narrow, high-tech sector we haven't seen the kind of productivity and other benefits that are being promised to us. There are economists who debate that, but I think the general sense is that it's significant now, but not nearly as significant as it ought to be.

MR. HERBERT: Lynn might care to address this.

DR. CHURCHILL: One of the other hats I wear -- Peter Lowery, he appointed me -- I guess "volunteered" me for is

the best word for it -- is I am the Director of the Public Sector of Relations for the Information Technology Development Authority within the Department of Commerce; and in that context there is a plan that we're currently working on, the Montana 2000 Plan, for economic development that is looking at high-tech industries in primarily three areas: one is aerospace, one is environmental technology, and one is IP.

And in that respect there has been quite a bit of work. There's been several meetings with people from around the state looking at the kinds of potential for corporations coming into Montana. There's been a fairly aggressive plan in terms of coming out of the Department of Commerce to work on that. I think a lot of that will come forward in the meetings this coming weekend in Great Falls. And if you aren't planning on going to that, if you have a chance to make it to those meetings, I strongly encourage you to go.

COMMISSIONER ROWE: One last pass through the remote locations. Billings, any questions from Billings?

MS. ARMSTRONG: Yes, Bob, this is Thelma Armstrong from Billings. Can you hear me?

COMMISSIONER ROWE: A little bit louder, please.

MS. ARMSTRONG: This is Thelma Armstrong from Billings.

COMMISSIONER ROWE: Hi, Thelma.

MS. ARMSTRONG: Hi. How are you?

COMMISSIONER ROWE: Good.

MS. ARMSTRONG: First some technical feedback. They may have a short in your microphone. You are going in and out, and at times it is very difficult to hear what you-all are saying, so you may just want to have somebody look at that on your break perhaps.

I do have a question for Colonel McCabe. I know early on in the national process there was lots of questions with our rural communities about potential private-public partnerships, and a fair amount of, I thought, excitement about the potential of those relationships. I know that that has not come to fruition as well as we had hoped.

I'm curious what you can -- what you've learned because I think we can learn from your experience, and any pearls of wisdom as we embark on other endeavors, kind of how we can kind of approach this successfully and move forward with public-private consortiums.

COLONEL MCCABE: Well, the first comment I'd make is that one of the constraints we had with our project is that everything that we did in the shared use environment had to be self-sustaining. That means that initially, as you talk about the investment in equipment, you have to figure out how you're going to refresh it in anywhere from three years to seven years, depending on the nature of the equipment. That was the daunting task for most of the communities in

accepting that responsibility.

The second issue in terms of distance learning is that there was no central scheduling location in the state of Montana, and they were all very much challenged by the requirements of trying to schedule. I think that that would be a serious consideration.

The third was when you talk about how are you going to get the content and negotiate for it or talk about where it comes from; and again, that was another issue. I believe those are state considerations that need to be looked at and how we can help those communities.

The other factor that I would put into it, as I've said before, I really believe that we need to have some economic development plans or training going out to communities that are considering this so they can really put together a plan on what it is they need to do to stand up, some sort of a cooperative effort.

That's what we've learned about it. We still believe that our project has the opportunities in various communities for partnering to a cure in the future as the community matures and as we have an operational system they can really see work.

COMMISSIONER ROWE: Colonel McCabe, since you have the microphone, why don't you ask Glasgow if they have any questions.

COLONEL MCCABE: Glasgow, do you have any questions?

GLASGOW: Glasgow doesn't have any questions at this time.

COMMISSIONER ROWE: Pablo?

MR. HERBERT: Pablo, do you have any questions?

PABLO: No questions.

COMMISSIONER ROWE: Cheyenne? Cheyenne, any questions?

MR. YOUNG: Yeah, Cheyenne has a question.

COMMISSIONER ROWE: Go ahead.

MR. YOUNG: Can you hear?

COMMISSIONER ROWE: Great.

MR. YOUNG: Yeah, my name is Randy Young. I'm from Minnesota. I'm with the Minnesota Association for Rural Telecommunications. I have a question for Commissioner Rowe, and that has to deal with the state's role as well as the regulator's role in advancing and promoting advanced telecommunications technology in the rural community.

We've got a situation in Minnesota I don't think is unlike Montana, where the independent telephone companies are doing a relatively good job of getting advanced technologies out to their community, but our administration seems hell bent on looking at competition as being a regulatory goal rather than the deployment of advanced technology to the point of even forcing competition in communities that probably can't support more than one

provider.

What do you see, Commissioner Rowe, as the regulator's role in deploying advanced -- or facilitating the deployment of advanced technology vis-a-vis facilitating or promoting competition?

COMMISSIONER ROWE: If you send me an e-mail, I'll send you an article. Seriously. I think there is a role. "Economic development" sometimes is a phrase that is used not very precisely, and sometimes there's not much bang for the economic development buck.

I ran through at the start a number of tools. I think competition is a tool. As you say, it can play out in different -- in very different ways. I'm thinking of examples such as the interests of competitive providers in providing DSL services, and then a very healthy competitive response from the so-called incumbents. I think that's a good example of competition.

In the next panel, I think we'll hear some more examples of competition providing other facilities, potentially even, for example, collocation.

Universal service, direct public support obviously has a role. And again, the Congress, and particularly our members of Congress, when they worked on the act recognized that. And one of the reasons I think that small companies do so -- so well often is that they have been supported

appropriately through rural utility service programs, through MECCA pooling, that you're familiar with; through direct high-cost fund support. I think that's an appropriate role.

I think there are a lot of new things that I would put in the economic development, community development hat, where folks like us need to get out and do more work at the community level. And as I said, Colonel McCabe has become, whether he likes it or not, kind of a community development, economic development expert, and I would pretty much endorse everything that he had to say.

Something we could do is to help support a local effort through providing expertise, through the convening function that we have through the ability to pull people together, and a lot of times that's more interesting and rewarding than holding hearings, for example.

Commissioner McCaffrey has a response for you.

COMMISSIONER MCCAFFREY: No, I'm just --

COMMISSIONER ROWE: She's just waving us off for time. But send me an e-mail. I'd love to talk to you about it.

MR. YOUNG: Thank you. I'll do that.

COMMISSIONER ROWE: We've gone over our time and outstayed our welcome. I would like you to join me in thanking our panel. They got us off to a great start here.

(Off the record.)

COMMISSIONER ROWE: I get to introduce once again, Nan Thompson is Chair of the Alaska Commission, is also Chair of the 706 Joint Conference on the state side, has just done a wonderful job. She's great to work with, has seen all parts of the country, and has learned a lot, and also collected quite a few good stories over the last few months.

COMMISSIONER THOMPSON: He keeps hinting and trying to get me to tell a snowshoe story. I'm not going to do it, from this forum anyway.

I have the pleasure of next introducing the small rural company telephone panelists, and I'm going to use the same format Bob did. I'll first introduce the three gentlemen to my right and ask them introductory questions, then we'll follow up with questions from Bob and I.

We always have questions if you don't have any; but if folks from the audience have any, either here or in the other sites, be thinking of them as they speak. We encourage you to participate also.

The first panelist is Mike Strand. Mike is from Montana Independent Telecommunications Systems, Inc. Mike is the executive vice president and general counsel for that organization. That organization provides regulatory representation, lobbying services, general business and financial consulting services, and public relations support for rural telephone cooperatives and independent telephone

companies in the state. Mr. Strand is also the president of Skyland Technologies, which provides telecommunications infrastructure and competitive telecommunications services in both Montana and North Dakota.

Mike has a bachelor's degree from Cornell and a law degree from the University of Washington, a few years after I got mine; and during his eight years in the Montana telecommunications industry, Mike has served on a number of significant policy committees. Those include the Governor's Blue Ribbon Telecommunications Task Force, the 911 Advisory Council, the Universal Access Oversight Committee, the Montana Integrated Network Committee, and the Governor's Y2K Readiness Council. Mike lives in Helena with his wife, Tammy, and their two children.

Next on the panel is Ron Warnick, general manager of VisionNet; and thank you again for letting us use this facility today. Ron was born in Great Falls, he lived in rural Montana for most of his life, and combining a strong interest in farming and with Unix system administration, IP networking expertise.

In the mid-'80s, he began helping to provide agricultural resources and ag extension and marketing for dial-up bulletin boards and later on the Internet as it became more available to the general public. In the mid-1990s, while he was working as VisionNet's system

administrator, he helped provide the first local access -- local Internet access to much of rural Montana. Ron helped design, build, and maintain VisionNet's existing statewide ATM network, and he was hired as the general manager just recently in September 1999.

And the last panelist is Geoff Feiss. He is the general manager of the Montana Telecommunications Association, which is headquartered in Helena. MTA represents commercial and cooperative local telephone companies and other telecommunications service providers throughout the state. His responsibilities include legislative regulatory affairs, communications, education, training, trade shows, and other valuable added services.

Prior to joining MTA in 1998, Geoff was the director of congressional and state relations of the U.S. Telephone Association, USTA, in Washington, D.C., and he's also worked in Michigan for Michigan Bell.

He went to U of M, but it may surprise those of you in this room to know it was the University of Maine, not Montana; and his bio says -- and I love this -- he has one wife, four children, and a dog. He was elected trustee of the Helena School Board. So I want to thank the panelists again all for coming.

I'll start first with Mr. Strand and ask you, I see from your biography that you represent a rural telephone

company trade association, but you're also president of a telecommunications service provider. I'm interested in what you have to say about the challenges and opportunities for deploying broadband services from both of those perspectives.

MR. STRAND: Thank you. I guess from the perspective of the association one of the things I'm most impressed with is the ability of our members individually to deploy broadband services, and even more impressed by their willingness to work together and pool their limited resources to deploy broadband services in these highly rural areas in Montana.

From a provider standpoint, I'm most impressed with the sheer expense of deploying broadband, the technological complexity of dealing with broadband, and the very difficult situation of choosing between competing technologies in a changing technological environment, particularly when the choice of technologies has a direct impact on your bottom line. If you have $3M to spend on broadband and you choose the wrong technology and you spend all your money, you're in a real -- real hurt.

But I put together a Power Point presentation to talk a little bit about what our companies are doing. You can go ahead and go to the next slide.

In the area of fiber construction, the five

companies that I represent in the Montana Independent Telecommunications Systems serve about 38,000 access lines, and we've deployed over 1,100 miles of fiberoptic cable. We are rolling out DSL in our small communities. We intend to have 12 communities with DSL by the end of August of this year. For those of you in Montana and perhaps those of you in Wyoming, just to give you a sense of the size of these communities: Chinook, Malta, Ft. Benton, Harlan, Chester, Big Timber, Glasgow, Wolf Point, Poplar, Highwood, Scobey, and Crow Agency. For those of you who are not familiar with Montana, those range in population from about 400 lines to around 2,000 lines in those communities.

We are anticipating rolling out DSL in a minimum of 40 additional communities in 2001. We're actually shooting for more like 60, but we don't want to write a check we can't cash.

Outside of DSL, of course, we saw the broadband access to the Internet business in the usual way through T-1 circuits, 56 kilobyte circuits, 65 kilobyte circuits, and the like. We've also been involved in a number of consortia, and I've just listed their names there. I'll go into more detail in subsequent slides, but one -- Montana Advanced Information Network, or MAIN; VisionNet; and Skyland Technologies.

MAIN, again, stands for Montana Advanced

Information Network, is a consortium of ten cooperatives and independent telephone companies in Montana. The independents lease their fiber capacity to MAIN as a central organization, and then MAIN in turn purchases lightweight equipment to offer transport services across the state of Montana, both interstate and intrastate circuits.

There is a map of MAIN. I know that particularly you folks in Wyoming may not be able to see much in the way of detail on that, but the bold red line that you see going around the interior or the exterior boundaries of the state of Montana is the MAIN fiber backbone. Those of you here in Montana can see the narrower red lines coming north and south of that backbone. Those are the independent fiber routes throughout the state of Montana and -- go on to the next slide.

Another consortium is VisionNet; and, of course, you're sitting in a VisionNet facility right now. This is being broadcast over a VisionNet system. It is made up of five cooperatives: Nemont Telephone Cooperative, Triangle, Northern, 3-Rivers, and Blackfoot. It's an ATM packet network connecting 77, as I understand it, interactive voice, video, and data studios, including this one. It also provides transport services over that ATM network.

VisionNet provides peering and network access point services. Their peering equipment has been installed in

Billings and North Cut Bank. They have DS3 routes to the Internet backbone from Billings to Denver, going north from North Cut Bank and going west from Missoula. They have interactive studios in Havre at Montana State Northern, at Billings, Bozeman, here of course, Great Falls, all of the tribal colleges, or all but one. I'm not sure.

MR. WARNICK: All the tribal colleges.

MR. STRAND: All the tribal colleges, and Ron will go into more detail about VisionNet. We serve around 50 K through 12 schools, and we also have corporate and commercial sites in various locations in Montana.

That gives you a sense of the -- the colored areas there are the service territories of the independent companies that are members of VisionNet. Again, the bold red lines indicate the VisionNet ATM backbone. The blue lines indicate the network access points to the Internet backbone in the larger metropolitan areas in this region. The next slide.

Another organization -- again, I'm president of this organization -- Skyland Technologies in Montana. Our efforts are embodied primarily in what we call a fiber hotel located in Billings, Montana. This is an organization made up of three telephone cooperatives and three electric cooperatives who recognize that we need a special environment for operating telecommunications equipment.

You need an uninterruptible power supply, a constant voltage, you need temperature and humidity controls, fire suppression, security, you need to be able to access the networks of other carriers, and you need timing to make sure that your data networks are operating on the same clock.

As new technologies are developed, as the telecommunications industry becomes increasingly deregulated, as we're seeing competition grow, more and more telecommunications equipment is going to be necessary as the industries grow. Many smaller companies are simply not prepared to construct the facilities that are necessary to meet these needs, and other service providers may be inclined to come to a place like Billings, Montana, if they weren't faced with the up-front time and expense of constructing facilities to house their telecommunications equipment and get access to the various fiber networks. Other providers simply need a place to meet the various telecommunications networks that do terminate through Montana.

Our layout, which is located in Granite Tower, is a ten-story building in downtown Billings. We have a power distribution room, back-up batteries for people's telecommunications and Internet equipment. We have a room where our tenants can meet the various carriers: AT&T, MCI,

Frontier, Global Crossing, U.S. West, Touch America, etc.

We have created collocation cages where individual tenants can locate their equipment and power that equipment up with a secure, environmentally controlled atmosphere. We also have what we call a common location area, where smaller providers like E-Commerce businesses, small Internet service providers, etc., can locate their equipment on single or individual racks or half racks of equipment, all with access, again, to back-up power and the various telecommunications networks that terminate to the hotel.

We also provide technical assistance, installation of equipment, maintenance, monitoring, troubleshooting, and repair; and we also provide sales and leasing of a conduit and duct system throughout the Granite Tower facility, which involves drilling through three-foot concrete floors for all ten stories of the building up onto the roof so that those folks who are interested in wireless communications in Billings can also access our facility.

I've given you kind of a layout here. I know it's difficult to read. It's difficult to read in Montana, so I know it's difficult in Wyoming, but it just gives you kind of a sense -- in the upper right-hand corner, we have a power distribution room. That leads down to -- through conduits to a generator located outside the building.

Each of those little cage locations is a major

telecommunications provider: Western Wireless, Vista, VisionNet, MAIN. We've located a couple of ISPs there. We're currently in negotiations with two companies that we're hopeful will be locating with us soon. We've only been operational since November and have been pretty successful already. Our Board of Directors has authorized us doubling the size of our fiber hotel in Billings.

Just a couple of final slides on some of the challenges that we've seen. A big challenge, of course, is cost recovery. As we roll out broadband services, particularly DSL, the demand, frankly, has not kept pace with the roll-out. A few customers want DSL-type services. Many are simply not willing to pay the rates sufficient to cover the costs, so we are in kind of a money-losing situation -- not kind of a money-losing -- a money-losing situation at this point rolling out broadband services, and we're hopeful that demand will increase as people become more familiar with the capabilities of the technology.

We're fighting a little bit against the wireless perception. When we talk about costs with politicians, regulators, other opinion-makers, we keep getting the same responses that, you know, "Well, wireless is the obvious answer to your cost problems. You don't have the lines to maintain, etc."

Unfortunately, we've been in the wireless business

for quite some time in organizations like Sagebrush Cellular, and we have PCS licenses and have -- we like the technology, we intend to increase our participation in that technology, but we're not aware of any business model that makes any sense in the areas as rural as ours for a wireless broadband solution.

We've looked at LMDS, we've looked at MMPS, we've looked at low-power broadcast. I'm not sure there's anything we haven't looked at other than putting up our own satellite. But we don't see any business case for wireless broadband in the near to immediate term.

And the final slide. Wireless distribution, the challenge, of course, is the 18 kft limitation for DSL at this point. Our solution to that has been to re-engineer our networks and deploy our electronics far enough out to bring our loops down to the 18kft limitation. That can be expensive in many cases and is simply not feasible in every case. We are seeing some light at the end of the tunnel, however, in pushing DSL out further than the 18 kft limit, and hopefully that will be available in the near term.

And then finally, wireline transport cost. I think this was addressed a little bit by the previous panel. Our opinions differ somewhat, I guess, from some of the panelists. As I indicated, VisionNet already offers what we consider network access points to the Internet backbone at a

level that is sufficient to meet our needs and VisionNet's needs. We are aggregating our transport to bring costs down, and they are going down steadily. Of course, they're still not free.

With that I've probably taken more than my allotted time, and I'll turn it over to -- back to the monitor, I guess.

COMMISSIONER THOMPSON: Mr. Warnick, can you tell us what the current status of broadband deployment is both within the VisionNet network and the independent telephone companies?

MR. WARNICK: Thank you, Nan. Mike went a little bit over his time, so I'll be renting him some of mine. He'll -- you'll see the bill later, Mike. I have a short presentation.

I wanted to talk a little bit about the efforts that VisionNet has made, and VisionNet's efforts have been in coordination with the independent telephone companies because we are owned by the independents, and the services that we deliver are in cooperation with the independents.

We actually began delivering broadband services in 1995 with our video conferencing systems. We deliver those in every case at T-1 rates, full motion, compressed video. We began offering rural access; and in lots of cases, we offered the first local access in much of rural Montana in

1995. We've been offering dedicated broadband access of 56K up to T-1s, and including multiple T-1s, since 1996.

We have been going ADSL commercially since 1999. I had an ADSL connection in 1998, and I've been happily using it since then. The telephone companies have been delivering wireless data since 1999, and we just became involved in the telemedicine business in 2000. We're just completing five sites in the northeastern corner of the state.

The question comes up, What is rural? What does rural mean? One of the major hurdles that we've seen in the deployment of broadband is the geographic nature of this state, the demographic nature of this state. Rural is a -- it can be a buzz word. We have heard "rural" referred to population centers as high as 10,00 people, as high as 20,000, 30,000 people, and that makes sense when you're comparing those sizes of population to major population centers, but in this state that doesn't make sense.

We are delivering broadband to places like Outlook and Flaxville, a combined population probably of about 100 families. We have a situation between Outlook and Flaxville where the schools, with the level of funding they get, have a difficult time meeting state curriculum standards. They built a broadband connection when school starts in the morning, take it down at night, and share teachers all day long. We have solved some problems in that way.

The technical issues that the rural nature of the state drive, of course, some of them are obvious. The distances that we have to cover, the nature of the outside plant that we're dealing with.

The next slide is an indication of what some of our service area looks like. This is actually taken outside of the doorway of one of our COs. We have ATM equipment mounted here in this CO. It's a little building, and I'm standing right in front of it when I took the picture. There is actually OC192 right there in that building.

COMMISSIONER ROWE: Central office space is affordable.

MR. WARNICK: Office space is an issue here. We have an OC48 in that facility, we have ATM services there. The issue with the 18 kft limitation for ADSL, when we're considering it in relation to this type of area, we have one subscriber within 18 kft of this facility.

The next slide. Some of the hurdles that we faced in our deployment efforts -- and we've been in the business for quite a while -- the major hurdle we believe is the lack of mature technologies, broadband and with any kind of technology we can speak of, whether it's ADSL, whether it's dedicated circuits, whether it's cable modems. There are -- standards exist, but there are competing interpretations of standards. There are difficulties in combining services with employing combinations of different vendors' equipment.

We've worked through those problems from the start-up of our system, and we still work with them.

Another major problem is that the existing technology is designed -- broadband technology is designed for an urban environment. We are not aware of any equipment that is designed particularly for our environment, so we adapt and modify the deployment of technologies to make it work for us.

The obvious hurdle that we face is the local loop distances. Often the quality of the local loop, we see a lot of variable loop quality. The outside plant that the independent telephone companies have put in place has generally been placed in the ground with a higher standard than some of the service areas that we have acquired, and so there's a lot of variation there.

One of the advantages that we've had is the decision that the independents have made. It's been beneficial to us to employ digital loop carrier facilities, place those outside of the seal. We expand considerably the 18 kft distance. We believe that we are on average of the telephone companies we deal with, we're within reach of 60 to 65 percent of the subscribers with the carrier facilities we have in place now.

Another advantage that we have is the cooperative use of the transport facilities, the ability of the

independents to share use to connect fiber -- high-bandwidth fiber. Generally, we're connecting on an OC48 level, and in share use we share the transport facility and share the backhaul to help average the cost for delivering the services to all of our customers.

I think that some of our successes are obvious. We're sitting in one example of one of the things that we do very successfully here. We could point to a number of things that we do. We offer many dedicated connections to schools, hospitals, banks, and businesses in general. We offer a pretty reasonable local loop pricing because we are -- we exist -- the network is close to a lot of the rural areas. We are growing in the urban areas.

We offer some of the advantages to the educational environment, as I mentioned before. In the communities that we service, the school is often the center of the community, and we feel that the service to the -- we feel that the service to the schools is also a service to the communities, and we believe that that is -- that is the key to our future success to the community development, and etc., with all of the services that we deliver: ADSL, the local Internet dial-up services, video conferencing, and data transport; and I'll conclude there.

COMMISSIONER THOMPSON: Thank you. We'll now hear from our third panelist, Geoff Feiss, general manager of the

Montana Telecommunications Association.

Mr. Feiss, can you please summarize the status of services provided by the Montana independent telecommunications companies represented by your organization?

MR. FEISS: Thank you. I'm going to blast through the first few slides and probably stop before I get to the last slides because they pertain to potential questions later.

I wanted to welcome Commissioner Thompson to Montana, almost as rural as Alaska, and there's just a quick thing about the rural telcos of Montana on the third slide.

The independent rural telcos of Montana represent or serve about 80 percent of the land mass in Montana, under 20,000 square miles or so, and we serve 31.5 percent of the access lines in Montana. Those are way above the national average even for rural telcos. We serve fewer than three access lines per mile. The cooperatives, who are spread out across the state, serve less than two access lines per mile, and 70-mile loops are not unheard of, especially out where Ron took the picture of the central office.

Despite those disadvantages, I suppose, of distance and density, we have over 5,000 miles of fiber in the state, 90 rural telecommunications video conference sites. That includes the sites that VisionNet has. And you might have noticed on the VisionNet map they hold the southeastern

corner of Montana. That's filled by Mid Rivers and Range, who also operate full-motion video sites that are connected by fiber to VisionNet and straight into Billings.

We are 100 percent dial-up accessible to the Internet. An interesting point from a national perspective is that 78 percent of our lines are residential, leaving the rest to do business. In more densely populated parts of the country, business revenues are a higher margin -- well, they were for us too -- than residential lines. That's where your profit margins come from. Our average business has two lines, and there are probably many businesses that are operating on residential lines, which means that our margins are cut short.

Despite that, 80 percent of the state lives within 50 miles of a DS3 Internet PoP, and I've got a couple of maps that will show that. You can just blast through the next three maps. There's Montana with DS3 Internet PoPs throughout the state. And again, there is an OC48 in the southeast corner of the state that connects other sites.

The next map shows the country. We are light blue, which is pretty darn good for a state that is as big and not populated as we are. More than 80 percent live within 50 miles of a DS3 PoP onto the Internet. The last one shows the country, and Montana has a lot of stars on it again for our state.

Broadband deployment. I've done a survey of my members, and I'll just try to go through that quickly. MECCA says that 65 percent of the U.S. rural LEC exchanges will be DSL capable by 2002. As Ron points out, 65 percent for Montana being DSL capable is certainly within the realm of possibility.

I'll just highlight a couple of companies. Blackfoot, 60 percent DSL capable by year-end. I just did a number of towns. The "NA" means Native American reservation being served in those towns. Interbelt would be 98 percent DSL capable. 3-Rivers, currently offering in several towns, is DSL capable in virtually all the towns it serves. Century has announced a $1.3M upgrade with 40 sites in the Flathead Valley, including Polson, another town -- Native American town. Mid Rivers has two plans. One is DSL, the other is cable modem service.

Lincoln, while not DSL -- this is a great story -- they have installed a self-powered digital loop carrier 15 miles away from their switch to a community of eight that don't have electricity, but they will have class services. They'll get call forwarding and speed dialing and all the stuff that they want.

Broadband is more than DSL, as has been pointed out. We have T-1 and T-3 on demand. Almost all my companies have DS1 up to DS3s.

I think the cost -- there was a MECCA study that just was released today on broadband costs, and it shows, obviously, the further away you are from a central office the more expense you're going to spend on a per line basis.

My field of dreams slide shows that, for instance, Mid Rivers can reach 1,500 consumers with its cable modem service. They have 20 subscribers. 3-Rivers also has service in Belt, has one in Big Sky, five -- you get the picture that we're building infrastructure and facilities and services ahead of the market, which is right where you want to be. I think I'll stop there.

COMMISSIONER THOMPSON: Thank you. It's the time for questions. And to put this panel in perspective, we'll be hearing -- these gentlemen are from independent telephone companies. We'll be hearing from U.S. West and others in Cheyenne for the other part of the hearing tomorrow. Or I guess it's Friday.

COMMISSIONER ROWE: Friday morning.

COMMISSIONER THOMPSON: Friday. I would like to open for questions. Since you extended me the courtesy of going first on your panel, I'll do the same to you, unless you wanted to punt.

COMMISSIONER ROWE: Your eight members getting class services outside of Lincoln that don't have off-the-grid power, I assume the handsets are illuminated; is that right?

MR. FEISS: Good point.

COMMISSIONER ROWE: How far ahead of the market do you want to be? When does the leading edge become the bleeding edge; and we're back to the economic development, community development side of it?

You're building this because you think you're going to make money on it, but also because you think there is some value to network utilization. What are your members doing or what should we be doing to get more people on line?

MR. STRAND: I'll take a first crack at it. I think we're already on the bleeding edge of this technology, to be honest with you. One of the nice things about cooperatives, of course, is that we don't have to be quite as bottom line oriented as a stock company. The way a cooperative is structured is the customers own the company, they elect the trustees on the Board of Directors. So as these trustees come to their board meetings, they're getting fervent requests from their neighbors to roll out DSL services, and our roll-out of DSL services is as much in response to that as anything else.

We're also betting that folks experienced with DSL technology and high-speed Internet access -- our understanding is once you have it, you never go back. We're hoping that the folks that do have the service will begin to tell their neighbors about the experience and the demand

will grow accordingly.

MR. WARNICK: I'll try my hand at tackling that as well. One of the issues for us is that we are content providers as well as bandwidth providers, and the content that we would like to provide, would most likely provide, is of a high bandwidth nature; and until we get the customer base that we have capable of pulling, for example, a high bandwidth video stream, then we can't deliver that content; and so for us, it's a chicken and egg problem. You need to have the facility in place to get the customers. You need to have the customers to afford the facility.

We think that having a facility in place, the customers will come because of the services that we can offer, that everybody can offer on a broadband basis -- broadband-based issues.

MR. FEISS: That's kind of an economic development question, and it's interesting that economic development and telecommunications are so integrally tied. We think we're ahead. If economic development comes, we've got the infrastructure waiting. Bring us the business, we'll bring you the telecommunications. It's waiting in place.

On the economic development equation, it's important to notice -- or to note that the telecommunications infrastructure is only one, albeit important, factor; and I did have a slide on that. People

here can have my paper copies, and it's one of those "what works" slides.

Demand, capitalism, is key, as Ron and Mike and the panel before have mentioned. There are a variety of things we can and should and are doing to increase demand. One is content that attracts people to telecommunications. Another is people, of which we don't have a whole lot. Another is economic activity, commerce, income, and then importantly, educated consumers.

There probably is -- I'm sure there is the potential to use telecommunications more by existing businesses and residences in Montana than it currently is being used. Case in point is that probably less than a quarter of our population is using just dial-up Internet today, and here we are delivering broadband, and we don't even have dial-ups yet. So we need to educate the workforce, we need to educate the consumers. They can save money, save time using telecommunications, and there is still a lot of education to do.

COMMISSIONER THOMPSON: I asked the last panel what the most significant regulatory impediment to delivering broadband services was, and I want to ask you the same question from a different angle, which is: What is the one thing that regulators have done that has been most successful in encouraging or facilitating deployment? What

should we do more of?

MR. STRAND: Well, I think from our perspective the thing to keep in mind is that it's great that we're deploying these broadband services, it's great that we're able to put together these consortia like Skyland, like VisionNet, like MAIN, but that doesn't alleviate us of our fundamental obligation to deliver basic telecommunications services. And the programs that have worked very well historically are the universal service fund program -- programs, I guess, and the access programs.

And I think probably what both the state commissions and through NARUC have done and what the FCC has done best for us so far is to leave those programs relatively untouched in terms of reforming them.

The reasons that we have resources to engage in these broadband deployment efforts is we've pooled resources we have left over from providing basic broadband service. If those programs are changed such that our abilities to draw from them to maintain basic service bandwidth have been reduced, then we're not going to have the resource to continue to roll out broadband services. So that would be my response.

MR. WARNICK: I'm going to pass that on to Geoff. I don't think that that was a technical question.

MR. FEISS: I would echo what Mike says. I can't

stress enough the importance of universal service to making possible what we have today and continuing to provide for the investments that are possible in the future.

There are -- since your question was a positive one and not what can be done to help, I'll sort of skim over some of that; but there are some threats to universal services in the form of caps and portability, and other technical regulatory aspects with regard to implementing universal service provisions that we need to address if we are to continue investing in these high-cost rural areas.

The other -- the flip side of the coin, or I like to think the complimentary part of the Telecommunications Act, in addition to the universal service, supporting investment, and high cost to states like Alaska and Montana, is competition. With competition, Mid Rivers Co-op in the eastern part of the state, for example, has been able to increase the tax base by $6M, employ 20 million people -- 20 people, and save consumers $600,000 at the same time.

So the competition provisions of the Telecommunications Act enable services to be provided either where they aren't or where better service or quality or consumer technology choices can be provided. So you have complimentary goals, and they work, and I would encourage the FCC and state commissions to ensure that the Telecommunications Act continues to work.

COMMISSIONER THOMPSON: I will now go to the other sites and see if there's any questions. First from Billings.

BILLINGS: There are no questions from Billings.

COMMISSIONER THOMPSON: What about Glasgow?

GLASGOW: Yes, Commissioner Thompson.

COMMISSIONER THOMPSON: Yes. We can hear you very well.

GLASGOW: Can you hear us well here?

COMMISSIONER THOMPSON: Yes. And could you please identify who you are and who you're associated with for the record?

MR. OXFORD: I'm Ron Oxford with the Nemont Telephone Cooperative of Scobey. My question to the panel, Commissioner Thompson -- there was a lot of discussion from the previous panel in regard to government working with industry or even maybe individually getting involved in the deployment of advanced technology. My question to the panel is this: What do you view as advantageous to this kind of an effort; and is there a point where it might not be advantageous or maybe even create an odd-level playing field out there within the industry?

COMMISSIONER THOMPSON: Thank you. I'll pass the mike, but first I want to know if you've seen any impact on those 20 million people that are in your part of the state?

MR. OXFORD: We need more.

MR. STRAND: I think with regard to state involvement in telecommunications, we've seen the Summitnet project. The bid was recently awarded to U.S. West. We like that model. Of course, we would have liked to have won that bid ourselves on the independent side. I don't think we were ace'd out by very much on that bid, but our preference would be that the State, as the largest user of telecommunications services, turn to private industry for solutions whenever possible.

As Geoff Feiss has indicated, we have little enough demand in the state as it is without the State turning to itself for provision of telecommunications services. So I think that would be my main response to that question.

MR. WARNICK: The issue that occurs to me as far as cooperative efforts between public sectors and private sectors and even between different entities in the private sector is while there are competitive issues and while there are territorial issues as well that won't easily go away, there are some basic necessities as far as the technical nature of a network exists that require a certain amount of cooperation. And I think the ability to put the levels of cooperation in place that allow us to do the things like peering, peering of data, aggregation of data, and that sort of thing, are beneficial; and the efforts need to be put

together in such a way that we maintain a level playing field on all the entities, that we maintain competitive stances, and that sort of thing, but still provide the service to the consumer, which should be everybody's goal.

MR. FEISS: I appreciate the question, and I'm probably the most vociferously private-sector promotor, as I have stuck my foot in my mouth many times, and I'll be glad to do it again.

First of all, I think Mike Strand was correct. Demand aggregation is one way to encourage development and the provision of telecommunications services. That said, state government or local governments or other large users have a lot of power in creating demand, and that power is well used, and I think some of that RFP is a good model in that the State describes its needs and industry responds with a private solution.

I am concerned whenever I hear public-private partnerships because partnering with the public involves a whole lot of double-edged swords, including taxpayer money and bonding authority; and then you have the potential to create a top-down solution, where the solution becomes more important than service to the customer, and you get stuck on technologies which may or may not be appropriate. Then you create for yourself a political black hole, where once the program is started it has a life of its own.

I love to use the state of Iowa as my poster child. They spend $500M on a state network and are spending $50M a year maintaining that network. It's ten years old, nobody likes it, and now they're trying to sell it to the public. That's obviously an incentive not to invest, if you're a private enterprise, in many telecommunications services, and it discourages such investments. It also takes revenues out of the tax base. So that's the elephant you're going to bed with when you have a state public-private partnership. So I just -- I'm always afraid to go to bed with an elephant, although elephants are pretty good sometimes.

COMMISSIONER THOMPSON: What about Pablo, do we have questions from Pablo?

MR. WOLCHECK: Yeah, I'm Lawrence Wolcheck of Constitution Telephone, and I notice there were comments made about getting the word out about broadband technology; and in Hot Springs we've had ADSL for two years, and we're still waiting for them to come. Cost is the main thing. People don't want to pay the extra prices for that. We're also probably one of the cheapest, lowest cost for the customer, too, in the state on DSL.

COMMISSIONER THOMPSON: I would ask you to please repeat your last name, and then I'll pass the mike down to the panelist to answer.

MR. WOLCHECK: Wolcheck. Wolcheck.

MR. STRAND: I guess I interpret that more as a comment than a question, but I would agree with the comment. You know, Montana is primarily an agricultural-based state, and what you find is in an area with ten farmers or ranchers one may be doing quite well and the other nine not so well. The one that's doing well can see opportunities to use the Internet, for example, to help his business and is willing to pay the cost of DSL; the other nine are too busy spending their money on tractor parts and fertilizer and pesticides, etc., and don't have an additional $40, $50, $60 a month to spend for DSL, and it's a real concern for us.

So it's something I think that the policymakers have to keep in mind as they whip us forward into deploying broadband. We're doing it as fast as we can, but please be aware that we are on the bleeding edge here, and the demand is slow to develop for these services.

COMMISSIONER THOMPSON: Are there any questions from Cheyenne? No? Then I'll offer --

CHEYENNE: This is Steve.

COMMISSIONER THOMPSON: Hi, Steve.

CHEYENNE: Nan?

COMMISSIONER THOMPSON: Yes.

CHEYENNE: This is Steve in Cheyenne. I have one. I didn't quite catch the comment by Geoff Feiss regarding the advantages of having competition in some of these rural

areas, and I guess I'm intrigued by that comment a little bit because it seems that usually I hear there is not enough demand there already, and if we have competitive entry, we're diluting the market for the providers that are already there. So I'd like Mr. Feiss to follow up on his comments, if he would.

MR. FEISS: I'd be glad to. The example I cited was Mid Rivers Telephone Cooperative, whose service territory is larger than the state of West Virginia with fewer than 15,000 customers. They have entered the towns of Terry, Glendive, Wibaux, and Sidney in competition with U.S. West, and they've done that without universal service funding, of course, privately financed through other financial institutions, primarily to provide a service which their customers wanted. And it's expensive, but they would not have been able to do that without the 251 provision of the Telecommunications Act.

So there are, I suppose, you know -- it all depends on how small you go. I mean, Terry, Glendive, Sidney, and Wibaux are metropolises if you represent a territory that's larger than the state of West Virginia. Due the fact that they have a silo and a railroad station, there is enough reason for a business to make a small business case out of it. They're not making a lot of money, and in many cases they're not making any money, but they're providing a

service and a commitment to their customers, and they sure hope to be making some money.

MR. STRAND: If I could just add a little. I'd like to just add a little bit to that. I think Geoff makes a good point that several of the exchanges that Mid Rivers is targeting are metropolises by our standards. The five companies that I represent, their largest exchange is Glasgow, about 2,000 lines, and that's staggeringly large by our standards.

I would agree with the commenter in Wyoming that in most rural areas that I'm familiar with it's very difficult to make a case for multiple providers, and I would encourage the state commissions and the FCC to be particularly diligent when looking at requests for ETC designation for multiple carriers in rural areas, is that the folks that are requesting that designation are really disserving the public interest by siphoning support dollars away from the incumbent.

COMMISSIONER THOMPSON: It's an interesting question. It's one we face back home in Alaska too.

I need to offer the opportunity to the folks in this room to ask questions of this panel, even though I've been waved down by the very polite Jay Driscoll, and I see a hand back there. Do you need to speak into the mike so the folks on the other side can hear you?

MR. WARNICK: There's a mike on the table right there by him.

MR. PRESTON: Does that work? Can the people in the other sites hear me?

BILLINGS: Yes, we can.

WYOMING: Yes.

PABLO: Okay.

MR. PRESTON: My name is Jay Preston. I'm president of Ronan Telephone Company in Ronan, and I'm going to direct this question to both Mike and Jeff regarding competition, again, in rural areas.

I understand that Mid Rivers competes with U.S. West in the towns there, but I was wondering what Mid Rivers' reaction would be if they were asked to provide reciprocal -- local reciprocal compensation for competition in their areas; say, in the circle for instance?

MR. FEISS: The circle is -- never mind. I was going to say the circle was the headquarters of Mid Rivers; and if competitors were to come in, there is nothing preventing Mid Rivers from allowing that to happen.

MR. PRESTON: The question was, Would the members of the Montana Telecommunications Association, being dependent on access charges for the vast majority of their income, in addition to the universal service fund, be willing to provide this exact same service under a reciprocal

compensation scheme where the compensation is essentially zero? That's my question.

MR. FEISS: I'm not sure I understand the compensation portion of that. Reciprocal compensation is compensation, as I understand it. I'm not an expert on recip comp; but as I understand it, you get compensated for the services you provide.

Back to Mike Strand's point. There are a number of provisions in the Telecommunications Act that ensure that competition in those remote parts of the country is in the public interest and is otherwise fair. Assuming that you're speaking of a hypothetical where those standards would be met, then reciprocal compensation would be a negotiated factor in those conditions.

MR. STRAND: From our perspective, the question is somewhat hypothetical in nature. We have not -- none of my members have competed through the organization with any other rural telephone companies or with U.S. West for local service.

As you're aware, Jay, there are mechanisms set forth in the Telecommunications Act for how someone would request reciprocal compensation from us. Whether we would try to assert our rural exemptions to that, I don't know until we receive one. I would guess that we would take a hard look at being willing to do that.

But like I say, we're not engaged in competition with our rural neighbors. Am I saying that we never will? I guess I don't know. We're not inclined to, but it's certainly a possibility. It depends on how the marketplace is. It depends on if there are changes to the support mechanisms that reduce our revenue streams, that make it more difficult for us to offer hight-quality service. But like I say, at this point it's kind of a hypothetical question for us.

MR. PRESTON: It's not a hypothetical question in Ronan. There's been a case going on there between Blackfoot and Ronan for almost two years now revolving around that question.

To follow up on Geoff's comment. He claims that Mid Rivers is competing with U.S. West in Glendive, Terry, Sidney, etc., and that they do not receive universal service funding. Well, I would challenge that question.

Mid Rivers receives a huge amount of universal service funding, and it seems obvious to me that that universal service funding is supporting the competitive initiatives of Mid Rivers and many other cooperatives; and to the extent it is, it's being misused. It's being used to support urban services, and it's intended to serve rural services, and I think that is a problem which doesn't look to me like very many people are willing to even acknowledge,

let alone face up to.

MR. STRAND: Well, you know -- and I'll let Geoff speak for the companies he represents. Blackfoot and Mid Rivers are not in my association; and as those of us who are in the industry are well aware, there are pretty strict accounting rules for how costs are to be reported to MECCA for members of a service company and for access pools. A dollar is a dollar, it's functional, it can be spent anywhere; but the plan and simple fact of the matter is that the amounts we receive out of those pools and from those support mechanisms are based on the cost-provided service within the incumbent service area.

I don't believe that you're allowed to include your costs for competitive operations in the costs that you report to these agencies. Again, if you choose to spend a dollar from -- that's supposed to support basic service in your incumbent area in your competitive area, that's one less dollar you have to maintain affordable rates in your incumbent area. That would be the best response that I have to that.

MR. PRESTON: I couldn't have said it better myself, Mike.

MR. FEISS: I have nothing to add. You can't use universal service funds for activities outside of your study area. It's just that simple. There are so many accounting

rules and audits that ensure that that is the case.

In the case of Blackfoot Communications competing against Ronan, that is a separate commercial subsidiary with separate books and a separate operation, so that further -- even further removes it from any specter of universal service support.

COMMISSIONER THOMPSON: It would be nice to allow the debate to continue, but we need to take a break to get some fresh air and allow the next panel to come up.

I want to remind again the folks in the audience, if you wish to make a public statement at the end of the next panel, Bonnie Lorang in the pink shirt has the sign-up sheets, and please sign up.

(Off the record.)

COMMISSIONER ROWE: As we get situated, if we can go through the other locations to see if there is anyone who wants to speak during the final session. Let's go around.

Will anyone from Billings want to speak during the final session? Billings?

BILLINGS: No. Thanks very much, Bob.

COMMISSIONER ROWE: Okay.

BILLINGS: Thanks alot.

COMMISSIONER ROWE: Thank you. Glasgow? Will anyone from Glasgow want to speak during the final session? No?

(No audible response.)

COMMISSIONER ROWE: Pablo, will anyone from Pablo want to speak? No? Okay.

(No audible response.)

COMMISSIONER ROWE: Cheyenne? Will anyone from Cheyenne want to speak during the final session? No?

(No audible response.)

COMMISSIONER ROWE: Okay. We will do a check again here at the end.

Well, this is -- of the three organized panels, this is the final one. The first panel really focused on big demand issues and some aggregation issues, talked about ways that demand could attract supply in a sense. The second panel was really our supply side panel; and as Nan mentioned, that discussion will be expanded and supplemented, then, on Friday in Cheyenne.

This is the demand side panel; and particularly, it's the community-based demand side panel, and there's a lot of very -- to me, very exciting things that we'll be discussing here during this session.

So this is the demand side panel, a community-based and non-profit demand side panel; and Our presenters are going to be John Zauher, who is Director of Health Informatics at St. Vincent's Hospital and Health Center in Billings, who is really one of the leaders in the whole field of rural telemedicine; and John has been a local

project manager and liason for collaborative tests and development work with NASA on KA band and space shuttle and telemedicine systems.

He has a total of 22 years of experience in healthcare as a biomedical photographer and videographer, training and development coordinator, audio and video telecommunications supervisor. His current responsibilities as Director of Health Informatics at St. Vincent's Hospital include Telehealth, Audio/Visual, and Health Science Library services.

Something we can really be proud of in Montana. I don't think there is a better -- I'm not aware of a better telemedicine program in rural America anywhere, and it's encouraging to see your program get the kind of attention that it deserves and it finally is receiving.

Nellie Bandelier is the Project Director for Dillon-Net based in Dillon, Montana. Nellie is a writer and a teacher with a master's of science in education, a graduate of Purdue University with honors, and a member of Delta Kappa Gamma. She also has three children and four grandchildren, and she's lived in Dillon for over 30 years.

Dillon was one of the first community network organizations in Montana and is really kind of a flagship around the country.

And then next, Larry Wetsit is Customer Affairs

Manager with Nemont Telephone Cooperative based in Scobey; but I know from trying to reach him on his cell phone, based in Scobey, but covering an awful lot of miles all over eastern Montana. And his responsibilities for the eight years he's been there included marketing, public relations, Native American relations for Nemont and its subsidiary companies: Project, Valley, and Nemont Communications.

Mr. Wetsit has also been the Tribal Chairman of the Fort Peck, Assinboine, and Sioux Tribes; Tribal Minerals Director, Tribal Tax Administrator, both for the Fort Peck Tribes. He's chairman of the board for A&S Tribal Industries, and is a member of the Fort Peck Community College Board of Directors.

And Frank Fifield is the systems administrator for the KooteNet in Libby. We've heard some discussion about the particular situation already in Lincoln County in terms of external access from Libby and Troy out.

Frank is a native of Troy, which is just a few miles up the road from Libby, only 18 miles up the road, and he's a native of the area now served by the KooteNet. Frank attended the University of Great Falls; significantly, mostly over the university's telecommunications distance learning program. He's been with the KooteNet since June of 1998. He's currently the systems administrator.

I talk a lot about Lincoln County as a place where

there are some real challenges, but where the community has come together in a unique way. They were too busy to wait around for the grants to come. They just got out and did things themselves, and I'm looking forward to Frank telling us about that.

Let's start with John. Could you briefly tell us what St. Vincent's Partners in Health Telemedicine Network in Montana is, talk about its demographics, its successes, and some of the challenges that you've encountered too?

MR. ZAUHER: Thanks, Bob, Nan. I want to thank the Montana Public Service Commission and the FCC representatives for the opportunity to speak today, and I think it genuinely is an opportunity to share our perspective from the end user's point of view and content providers. So if you'd start with the first slide.

I'm talking in particular about the Partners in Health Telemedicine Network, which is based out of St. Vincent's Hospital in Billings, Montana; but I also will talk briefly about the Montana Healthcare Telecommunications Alliance, which is another important cooperative venture within the state, and I'll share a little bit of information about that.

PHTN -- and if we can move to the next slide -- encompasses a partnership with Indian Health Services and is based through the Billings area office, and it took

advantage of many of the federal grant opportunities that are available now to provide telehealth and telemedicine services to rural and frontier locations in Montana. If you'd move to the next slide.

Some of the demographics that we're dealing with when we deploy these types of systems -- and it may be difficult to read some of these figures, but what I will share with you are the important ones, and that's -- this is from our demographic information that we provided on the TF grant application, and it shows the population and square miles for Yellowstone County, the United States, Montana, Big Horn, and goes down to several counties that we are involved in deploying sites at.

And then it also shows an important figure, which is the population density; and in the sites that we are locating our systems in, we are dealing with population densities of anywhere from 1.6 to 4.6 per square mile, and that's an important figure to keep in mind. We'll move to the next slide.

Another demographic issue that we are dealing with are the -- and it's been mentioned by other panelists as well -- is the extreme distances. The IHS facility up in Browning, from the Billings area office is 349 miles, to Lame Dear is 96 miles, which is the closest of the facilities that we're dealing with. Move to the next slide.